## **ABSTRACT**

## TRANSMISSION ANTENNA DIVERSITY

In mobile communications systems transmission antenna diversity is used e.g. to compensate for fading caused to the signal on the radio path. It is known to make the choice of transmission antenna jointly for all subscriber connections, but it is not hereby possible to offer the optimum transmission antenna to simultaneous connections. The present invention aims at a method for implementing transmission antenna diversity on a data transmission connection, which is set up between a transmitting unit (BS), wherein there are several transmission antenna routes (ANT1, ANT2, ANT3), and a receiving unit (MS1, MS2). In the method, a broadcast signal is transmitted through all transmission antenna routes (ANT1, ANT2, ANT3) of the transmitting unit, with the aid of these signals a choice is made in the receiving unit (MS1, MS2) of the optimum transmission antenna route connected for use. According to the invention, the method is characterised in that the broadcast signal of each transmission antenna route is shaped by an individual signal shaping method which is different from the others and a transmission antenna route is connected for use based on the received antenna choice message, individually for each receiving unit.

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